

REMARKS

The foregoing Amendment and following remarks are responsive to the Office Action mailed October 31, 2006 for the above-referenced patent application.

Request for Continued Examination

A Request for Continued Examination (RCE) and the appropriate fee are being filed concurrently with this Amendment.

Pending Claims

Claims 1, 2, 9-12, 19-20, 22, 23, 30 and 31 are pending. Claims 3-8, 13-18, 21, 24-29 and 32 have been cancelled.

35 USC §112 Rejections

In the Office Action, claims 1-2, 8-12, 18-20, 22-23, 29-31 were rejected under 35 U.S.C. §112, second paragraph. By the present Amendment, Applicants have amended independent claims 1, 11 and 22 to overcome this rejection. Specifically, Applicants have included an explanation of how the microactuator structure is attached to the other components in order to move the moveable structure.

35 USC §102 Rejections

In the Office Action, claims 1-2, 8-12, 18-20, 22-23, 29-31 were rejected under 35 U.S.C. § 102(b) as being anticipated by Boutaghou (U.S. Pat. No. 6,069,771). Applicants respectfully submit that independent claims 1, 11 and 22 are not anticipated by Boutaghou because the reference does not disclose that the microactuator structure

is attached to the stationary structure and the gimbal structure to move the moveable structure in both the pitch and roll directions with respect to the stationary structure.

As understood, Boutaghou discloses a micro-actuator device wherein the gimbal assembly is only moveable only in one plane. Specifically, referring to Figures 3A and 3B of Boutaghou, a linear motor 58 expands in X and/or Y directions to linearly displace gimbal 53 in small increments for fine positioning of the slider 54. In this respect, the gimbal 53 is only moveable by the microactuator (i.e., linear motor 58) in the x-y plane direction. (See Figure 3A). There is no description in the reference that the gimbal 53 is positioned by the microactuator in the pitch and roll directions. Similarly, Figures 4A and 4B disclose a motor for fine positioning a gimbal 73 and slider 74 about axis 81. In this respect, the gimbal 73 is positioned by the microactuator in an arc around axis 81. Accordingly, the Boutaghou reference does not disclose the microactuator positioning the gimbal in the pitch and role directions. In fact, the Boutaghou reference teaches only moving the gimbal in a single plane because it uses existing micromotor designs that simplify design. (Boutaghou, col. 4, lines 2-6).

It may be possible for the gimbal 53 as taught by Boutaghou to move in the pitch and roll directions from external forces applied thereto, such as when the slider is flying above the disk. However, with microactuator design disclosed by Boutaghou, it is not possible for the microactuator to position the gimbal in both pitch and roll directions for fine positioning of the slider. As previously explained, the microactuators disclosed by Boutaghou only move the gimbal in a single plane and do not have the capability to move the microactuator in both the pitch and roll directions for positioning the slider above the disk.

On the other hand, the invention as described by independent claims 1, 11 and 22 is not anticipated by Boutaghou because the microactuator moves the gimbal in both

the pitch and roll directions for positioning the slider above the disk. As seen in Figure 6 of the present application, the microactuator structure 607 moves the slider 609. Figure 7 illustrates that the slider mounted to slider bonding plate 703 is moveable in pitch and roll directions illustrated by arrows 705. Referring to Figure 8, rotational movement of the gimbal structure is accomplished by applying force 802 to slider bonding plate 803 with the microactuator (not shown). Figure 9 shows that pitch attitude control is achieved by applying forces 902 and 903 with the microactuator (not shown). Accordingly, it is possible for the microactuator to control both the pitch and roll of the gimbal assembly.

Applicants respectfully submit that Boutaghou does not disclose pitch and roll control of the gimbal with the microactuator because Boutaghou is only concerned with positioning the slider in a translational direction. Accordingly, Boutaghou discloses movement about one axis (Figures 4A and 4B), or in a single x-y plane (Figures 3A and 3B). As such, Boutaghou does not disclose the invention as described by amended claims 1, 11 and 22.

Applicants respectfully submit that independent claims 1, 11 and 22 are not anticipated by Boutaghou and in condition for allowance. Furthermore, Applicants respectfully submit that dependent claims 2, 9, 10, 12, 19, 20, 23, 30 and 31 are in condition for allowance as being dependent upon an allowable base claim.

Conclusion

In view of the foregoing Amendment and remarks, Applicants respectfully submit that claims 1, 2, 9-12, 19-20, 22, 23, 30 and 31 are in condition for allowance. Specifically, the claims are not anticipated by Boutaghou because the reference does not teach or suggest the microactuator moving the gimbal structure in both the pitch and

roll directions with respect to the stationary structure. Applicants respectfully request that a Notice of Allowance be issued in relation to the pending claims of the application.

Respectfully submitted,

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